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ABSTRACT

The effect that winning a National Collegiate Athletic Association (NCAA) Division 1 national championship in football or men's basketball may have upon the quantity and quality of undergraduate admissions applications received by institutions was examined. Between 1979 and 1992, 11 institutions won the NCAA Men's Basketball Tournament with two winning twice. In the same years, 13 different universities won or shared the national title in football. For each of these institutions and each of the championships, admissions data for the 5 years before and after the championship were analyzed. The preliminary findings suggest that the most apparent measure of athletic success, a championship season, was one factor among several in the college choice process for undergraduates. It was found that in certain circumstances notable increases occurred in applications received in the years following the championship season. No evidence was found that the quality of applicants increased following championship years. Championship seasons in the most popular sports were routinely accompanied by significant, positive attention for the sponsoring institution but this attention did not increase the quality of the applicant pool. Appendices detail the findings for football and basketball. (Contains 71 references.)(JLS)

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Intercollegiate Athletics and Student College Choice: Understanding the Impact of Championship Seasons on the Quantity and Quality of Undergraduate Applicants

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A. Introduction and Overview

Intercollegiate athletics are an essential part of collegiate life -- the notion of the residential campus and extracurricular activities imported from Oxford and Cambridge -- particularly at the few hundred largest and most prominent American higher education institutions that choose to compete at the highest level in spectator sports. Large institutions commonly lack the traditions that characterize many small, often elite, residential liberal arts colleges, and pose mass spectator sports as representative of the collegiate ideal. These are the schools that devote the resources to intercollegiate athletics that build and fill enormous stadia and arenas (including sizable student sections); permit television networks to televise games to eager national audiences; and attract local and national journalists to campus on game day. They are also the schools that are in the running to win championships in the two marquee college sports: football and men's basketball. As a result, college sports are an especially visible part of these universities, to sports fans and non-sports fans alike. One constituency whose attention high profile intercollegiate athletics may attract is prospective students, in a way that appeals to many by asserting the collegiate ideal.

We analyzed the effect that winning a NCAA Division I national championship in football or men's basketball may have had upon the quantity and quality of undergraduate admissions applications received by institutions. The preliminary findings of our exploratory study suggest that the most apparent measure of athletic success -- a championship season -- is one factor among several in the college choice process for aspiring undergraduates. We compared year-to-year and multi-year changes in the number and quality of applicants with changes in parallel sets of data from peer institutions. We used peer schools as a vehicle to isolate athletic success as a factor in undergraduate admissions. We found that in certain circumstances notable increases occurred in admissions applications received -- both in absolute terms and relative to peer schools -- in the years following the championship season, particularly in the admission year

immediately ensuing. We found no evidence, however, that the quality of applicants or yields increased following championship seasons. Championship seasons in the most popular sports are routinely accompanied by significant, though short-term, positive attention for the sponsoring institution: the type of attention that may effect the number and attributes of the high school students that apply to the institution in subsequent admissions cycles. Our preliminary findings indicate that they have some influence on student college choice.

B. Importance and Context

One of our primary goals is to incorporate intercollegiate athletics into the broader research literature on higher education. Another is to expand the examination of the philosophy and missions of the university to include college sports, particularly the empirical study of these issues. Even though the athletic department is usually the part of the university that is most visible to many outside of the university community, including prospective students, college athletics is an activity that scholars and administrators too commonly view as distinct from other institutional functions. Intercollegiate athletics is often considered separate from core activities on campus -- teaching, research, and service activities -- but it advances these causes in often nebulous ways. The institutional ends served through high profile intercollegiate athletics may include not only student recruitment, but also development, alumni relations, institutional advancement, and community building. Universities may also use athletics to advance the less apparent areas of academic reputation, governmental relations, and racial and gender diversity.

Given the increasing popularity of intercollegiate athletics and the demonstrated potential for corruption and scandal in college sports, examining the connections between the athletic department and the rest of the university represent timely questions. These issues should interest not only higher education scholars and university administrators, but are concerns that frequently capture the attention of legislators, external regulators, potential donors, the media, and the public. In beginning to explore the intersections between

intercollegiate athletics and student recruitment, we aspired to identify a factor too commonly overlooked or misunderstood by both scholars interested in college choice and university administrators directly involved in these activities.

Finally, we also hope to provide greater context to the study of admissions decisions through the qualitative methods that remain rare within the student choices literature. The findings we present here provide the foundation for the qualitative component of our study, our next task. We recognize that several factors might influence increases in admissions numbers and hope that interviews will shed light on factors that may have caused increases and declines but that are not apparent from reported data. In other words, interviews with admissions officers will aid in assuring that trends, initiatives, or policies having nothing to do with championship seasons are not what admissions officers perceive to cause changes -- in full or in part -- in admissions numbers.

C. Research Questions and Definitions

We considered two main research questions. First, for the years between 1979 and 1992, does winning a national championship in football or men's basketball effect three variables: (1) number of undergraduate applications received; (2) quality of undergraduate applications, as measured by class rank, high school grade point average, and standardized test scores; and (3) yield of accepted applicants? Second, is any increase in applicants or change in their quality temporary or does it mark the beginning of a sustained trend?

We employed championship seasons in football and men's basketball to represent the concentrated and ample positive attention institutions may receive through the ancillary activity of intercollegiate athletics. Our focus is on a narrow band of sports, athletic programs, and universities. Typically, only football and men's basketball attract attention outside the university to the extent necessary to have an influence on undergraduate admissions. Although some sports at some schools are traditionally or increasingly very popular, their effects are not the direct focus of our current research. In addition, only a limited number of universities devote the resources to intercollegiate athletics that allow

them a reasonable opportunity to win a championship. Even for the most successful athletic programs, however, championship seasons are rare. Winning a national championship in basketball requires emerging victorious from the annual NCAA tournament, a feat that involves winning six consecutive games, often against increasingly difficult competition. In football, it involves finishing first in either the Associated Press poll of sports writers or the CNN/USA Today poll of football coaches. Neither accomplishment has been achieved by a school that has not committed considerable resources to an intercollegiate athletics program that was closely followed by the media and public, including a significant number of prospective college students.

D. Literature Review and Conceptual Framework

Two research literature, one reasonably well-developed and the other surprisingly unexplored, principally informed our study.

Several scholars have explored student college choice and have typically used quantitative methods to model how students select an institution to attend (Hamrick and Hossler, 1996; Chapman, 1993; Litten, 1991; Paulsen, 1990; Hossler, Braxton, and Coopersmith, 1989; Welki and Navratil, 1987; Litten, 1982). These models have taken three forms: (1) sociological models (Sewell and Shaw, 1978); (2) economic models (Young and Reyes, 1987; Manski and Wise, 1983; Chapman, 1979); and (3) models that combine the two approaches (Hossler and Gallagher, 1987).

Other scholars have focused upon particular variables and settings in recent studies, including: (1) academic ability (Weiler, 1994; Leppel, 1993; Wanat and Bowles, 1992); (2) attitude about competitor institutions (Trusheim, et. al, 1990); (3) disability (Henderson, 1992); (4) family income (McPherson and Schapiro, 1994; Flint, 1992); (5) financial aid and scholarships (Hossler, et. al, 1991; Moore, et. al, 1991; Muffo, 1987); (6) gender (Galotti and Mark, 1994); (7) geographic location (Weiler, 1994; Leppel, 1993); (8) graduate and professional students (Kallio, 1995; Sekely and Yates, 1991; Malaney, 1987); (9) institutional rankings (Hossler and Foley, 1995); (10) parental saving and

income (Bouse and Hossler, 1991; Hossler and Stage, 1989; Smith and Bers, 1989); (11) parental influence (Hossler and Vesper, 1993; Hossler and Stage, 1992; (12) persistence (Braxton, et. al, 1995; Villella and Hu, 1990); (13) race (Maxey, et. al, 1995; Wesley and Southerland, 1994; Allen, 1992); (14) status (Heath, 1993); (15) recruiting and promotional materials (Hossler, et. al, 1991); religion (Weise and Townsend, 1991); (16) two-year institutions (Smith, 1990; Smith and Bers, 1989); and (17) transfer (Kearney and Townsend, 1991). McDonough has used qualitative methods to analyze trends in college admissions (1994), and the influence of status of status cultures and organizational environments (1991).[1] As Hamrick and Hossler (1996) suggest, the overall research literature on student college choice often links aspirations to attend college with an interest in status attainment.

The few scholars who have studied intercollegiate athletics as a college choice variable work mainly with econometric models and their results suggest only the broadest correlation between sports success and admissions numbers. Murphy and Trandel (1994) compare 46 football schools and find an increase in winning percentage of .25 to equal an increase in applications of 1.370. Yet, the study only measures improvement (potentially from 0 wins to 3 wins) rather than success -- and positive attention -- indicated from a national championship. Studies by Tucker and Amato (1993) and McCormick and Tinsley (1987) explore the connection between athletic success and academic quality. Tucker and Amato study the effect that a high profile athletic team in football or basketball has on average SAT scores. They find that a highly ranked football team boosts SAT scores, but a highly ranked basketball team does not have the same affect. However, their econometric study fails to examine the impact football and basketball success has on the number of students interested in the institution, only the quality -- measured by one variable -- of the institution. McCormick and Tinsley, examining whether athletic success erodes the

[1] Pauslen (1990) and Hossler, Braxton, and Coopersmith (1989) collect and discuss earlier work on student college choice.

academic quality of an institution, demonstrated through the use of SAT scores that institutions that participate in major college athletics are generally better academically than those that do not make a similar investment. The study fails to examine, however, the relationship between higher academic quality and the number of students that apply to the institution. Furthermore, there is no examination of the success in football or men's basketball -- rather than simply participation -- that may account for stronger findings. Finally, Mixon and Hsing (1994) only use athletic participation at varying NCAA levels as one variable among many that affects student choice. There is no examination of the quality or success.

Two other studies address topics somewhat related to the influence of athletic success to student choice. Grimes and Chressanthis (1994) analyze the affect that athletic success has on endowments, and alumni giving, finding a positive relationship between overall winning percentages and donations, but no relationship between championships and donations. The study does not examine the relationship between success and admissions growth, but does suggest, for a single institution study, a method to approach examining the issues of winning and participation related to intercollegiate athletics. Finally, Sigelman (1995) examines the relationship between the academic quality of an institution and the type of football player they are able to recruit, finding that the higher quality institution has an athletic recruiting advantage from being able to surround players with higher quality students. The study does not examine the relationship that the success of the football program has on the academic quality of the institution overall, or even if having a program at all has an effect on the number and quality of students or prospective students.

Fewer scholars focus on the influence of intercollegiate athletics within American higher education. The most important recent work in the area of intercollegiate athletics focuses on scandal and reform (Lapchick, 1996; Byers, 1995; Lapchick and Slaughter, 1994; Shropshire, 1991; Sperber, 1991; Andre and James, 1991; Funk, 1991; Thelin and Wiseman, 1989). In addition, government agencies, select commissions, and symposia

interested in intercollegiate athletics have typically focused upon regulation and improvement (Symposium, 1995; Knight Commission, 1993). Recent academic writing has also concentrated upon the history of college sports (Miller, 1995; Lester, 1995; Guttmann, 1991; Smith, 1990; Hult, 1989). Thelin (1994) combines these two themes in his illuminating book. Other recent academic books have addressed the student-athlete (Alexander, 1996); the economics of sport, including college sports (Euchner, 1993; Sack, 1991; Fleisher, Goff and Tollison, 1992); and the social significance of sport (Raitz, 1995; Higgs, 1995; Levine, 1992; Adler and Adler, 1991; Riess, 1990; Sage, 1990; Roberts and Olson, 1989).

Finally, as our conceptual framework, we adopted the model proposed by Hossler and Gallagher (1987), which divides the college choice process into three stages: (1) predisposition, where a student arrives at a tentative conclusion to continue his or her education; (2) search, where a student gathers information on the attributes and values that characterize alternatives among institutions; and (3) choice, where a student decides which institution to attend. We suggest that the significant success in intercollegiate athletics and the positive attention it produces has an influence in the search and choice stages, and to a much lesser extent may even influence predisposition in making certain students -- those who follow college sports -- aware of higher education from an early age.

E. Sample and Method

Between 1979 and 1992, 11 different institutions won the NCAA Men's Basketball Tournament, with Louisville, Indiana, North Carolina, and Duke winning twice. During those same years, 13 different universities won or shared the national title in football, with Alabama and Penn State winning twice and Miami winning four times. For each of these schools and each of their championships, we collected admissions data for the five years before they won a national championship as well as the five years after from the annual editions of *Peterson's Guide to Four-Year Colleges and Universities*. Two recent studies on similar topics -- Mixon and Hsing (1994) and Murphy and Trandell (1994) -- employed

the same database. Each year, institutions report several admissions statistics to the database compiled by Peterson's Guides. We contacted several institutional research and admissions officers and found them to trust the accuracy of the Peterson's numbers. We will continue to ask about the reliability of the Peterson's data during our qualitative interviews in the next phase of our study. Furthermore, we observed no unexplained statistical jumps or drops in our use of the database. Although universities are sometimes thought to misreport admissions data, any data manipulation did not effect our study in a meaningful way because we compared institutions' numbers from year-to-year. As long as a school did not change its reporting procedures, the numbers they reported to Peterson's provided an accurate basis for comparison. Where the numbers reported suggested that an institution may have changed its procedures, we contacted the school for clarification.

We collected data on three variables for each of the 30 championship universities for each admission cycle we reviewed: (1) number of applications; and (2) yield of accepted applicants. We also gathered data on: (1) percentage of students in top 10 percent and top 25 percent of their high school class: (2) high school grade point average; and (3) percentage of Scholastic Aptitude Test (SAT) verbal and mathematics scores over 600. We were unable to find a consistent quantitative measure of the geographical diversity of applicants and will rely upon our informants during the qualitative interviews for that information.

We concentrated on identifying changes in admission numbers between the admission year of the championship and year and years immediately following the championship. In football, a fall sport, we focused on decreases or increases in the class admitted for the following fall. For instance, the University of Alabama was voted national champion after the Fall, 1979 season and we concentrated on identifying change in class of applicants in the next admission cycle -- Fall, 1980 -- as well as in following years. In basketball, where the championship is not decided until late March or early April, the increase was delayed for a year, particularly for more selective schools where application

deadlines are set earlier in the academic year. By the time Michigan State won the NCAA Tournament in 1979, for instance, the Fall, 1979 class had already submitted their applications, so we focused on the Fall, 1980 entering class in attempting to identify change. We reviewed data for the four admissions cycles preceeding the championship, the admissions year of the championship, and the four admission years following the championship.

In addition, for each championship school, we identified two peer institutions; universities that drew from approximately the same types of applicants: schools of similar size, academic reputation, and athletic program, but not necessarily geographic location. We also attempted to avoid having schools who experienced significant athletic success during periods considered as matched institutions. We collected the same data for these "matched" institutions as for the championship schools. In Table 1, we list both the championship and matched universities.

Table 1

National Championship Teams and Matched Institutions

Year	Football #1	Matched Institutions	Basketball #1	Matched Institutions
1979	Alabama	Louisiana State, Mississippi	Michigan State	Illinois, Minnesota
1980	Georgia	Florida, South Carolina	Louisville	Cincinnati, Memphis State
1981	Clemson	Auburn, Mississippi State	Indiana	Ohio State, Illinois
1982	Penn State	Illinois, Syracuse	North Carolina	Texas, Wisconsin
1983	Miami	Tulane, George Washington	N.C. State	Auburn, Louisiana State
1984	Brigham Young	Utah, Baylor	Georgetown	Tulane, Vanderbilt
1985	Oklahoma	Kansas, Texas A&M	Villanova	Fordham, Tulane
1986	Penn State	Illinois, Syracuse	Louisville	Cincinnati, Cleveland State
1987	Miami	Tulane, George Washington	Indiana	Ohio State, Illinois
1988	Notre Dame	Boston College, Fordham	Kansas	Iowa, Nebraska
1989	Miami	Tulane, George Washington	Michigan	Texas, UCLA
1990	Colorado Georgia Tech	Texas, Minnesota Maryland, Purdue	Nevada-Las Vegas	Long Bch. St., San Jose St.
1991	Miami	Tulane, George Washington	Duke	Emory, Vanderbilt

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	Washington	Oregon, Wisconsin		
1992	Alabama	Louisiana State, Mississippi	Duke	Emory, Vanderbilt

Finally, during our qualitative interviews, we intend to ask admissions officers at each championship school to name whom they view as their five main competitors. We will then compare these institutions with the championship schools in the same way as we do below, further strengthening our findings relating to change in admission numbers in years following championship seasons in absolute terms and relative to peer institutions.

F. Findings

1. Football Championships

Of the 16 schools that won or shared championships in college football, 14 showed some increase in the number of applications received for the first freshman class following the championship, seven enjoyed an increase of 10 percent or more, and two schools had an increase of 20 percent or more. Similarly, over three years, 14 of 16 championship institutions showed an increase in applications, and 13 of these 14 schools experienced an increase of 7 percent or more. In Appendix A, we report the number of applicants for the football championship schools for both the year immediately after the championship season as well the average of the three years following the championship. We also report data for the matched school over the same periods of time.

a. Relative Improvement in Applications

The two most dramatic cases of increases in admissions applications following a football national title occurred at the University of Miami and the Georgia Institute of Technology. Applications to Miami for the entering class of 1988 increased by 34 percent following the 1987 championship football season. Similarly, Georgia Tech had a 21 percent increase in applicants after it shared the national championship in 1990. At both schools, the average of the number of applicants for the three years following the

championship was essentially the same as for the year immediately following. In the years 1990, 1991, and 1992 combined, Georgia Tech received 23 percent more applications than in the championship year and the two previous years taken together. At Miami, the school received 33 percent more applications in 1988, 1989, and 1990 than in the three previous years combined. Other schools -- Georgia after 1980, Miami after 1983, Brigham Young after 1984, Washington after 1991, and Alabama after 1992 -- saw more modest gains of between 10 and 20 percent in applications received both for the year immediately following the championship. The other championship schools saw only modest gains in the year and the three years following the championship, with two schools -- Alabama in 1979 and Miami in 1993 -- experiencing an approximately five percent drop in applicants in the three years following the championship.

In the two cases with the greatest gain -- Miami after 1987 and Georgia Tech after 1990 -- the championship school far outstripped its peer schools in increase in applications received. Tulane and George Washington -- universities that we postulate draw much the same type of applicant as Miami -- had an eight percent decline and a five percent gain, respectively, in the year that Miami went up 34 percent following its championship. The three year changes for the matched schools were a five percent increase for Tulane and a one percent decrease for George Washington, compared to the 33 percent gain at Miami. At Georgia Tech, the peer school -- Maryland and Purdue -- had increases of seven and five percent in the year following the championship and increases of 13 and one percent over three years, compared with Tech's increases of 21 percent for one year and 23 percent for three years. Finally, Alabama had double the increase applicants of its peer schools -- Louisiana State and Mississippi -- in the year following the 1992 championship: 19 percent compared to 10 percent.

In addition, looking at the three year average, several schools had impressive gains relative to at least one of their peer institutions. Even though the increase in applications to Florida exceed Georgia after 1980 championship, South Carolina -- another peer institution

to Georgia, and an institution in a growing region of the nation, like Georgia and Florida -- dropped eight percent for the same year and five percent over three years, compared to increases of 11 and seven percent for Georgia over the same periods. Although Penn State had only a 1 percent gain in the year following the 1982 championship, their admission numbers increased 24 percent in the three years after, compared with a 8 percent gain for Illinois and a 2 percent decline for Syracuse, two peer schools. Similarly, after Miami won its third championship in seven years, in 1989, even though application to Miami dropped 9 percent in the year immediately following, the school had a four percent gain over three years while its peer schools, Tulane and George Washington lost 1 percent and 7 percent, respectively, over the same period. In another case, applications to Notre Dame increased 11 percent over three years after its 1988 football championship, compared to a decline of 16 percent at Boston College and a 2 percent increase at Fordham, two peer schools.

b. No Relative Improvement in Applications

At other schools, some increases wash out when considering the experiences of matched school for the year following the championship and over the three years after the national title, particularly for the five schools -- Georgia in 1980, Miami in 1983, Brigham Young in 1984, Washington in 1991, and Alabama in 1992 -- that had increases of between 10 and 20 percent in the year following the championship. In the admissions year immediately following the football championship, the respective matched schools had similar gains to each of the seven schools. In 1980, when Georgia increased 11 percent over one year and seven percent over three years, the University of Florida increased 21 percent in both the year and three years following the Georgia championship. The 13 percent in application to Miami in 1984, following the 1983 championship, was matched by a 14 percent increase by peer school George Washington, and GWU outstripped Miami two-to-one in applications received over the three years following the championship. At Brigham Young, increases of 12 percent for both one year and three years following the championship were matched by their peer schools -- Utah and Baylor -- for the first year,

and far exceeded for the three years, with Utah showing a 26 percent increase and Baylor showing a 19 percent increase. Similarly, the post-championship increase of 12 percent for one year and 18 percent for three years at Washington was exceeded by peer school Oregon. In addition, although Alabama had double the increase of its peer schools in the year following its 1992 championship, it did not sustain the difference over a three years period, increasing by five percent while peer school Mississippi matched that gain. Finally, a school with less than a 10 percent increase in the year after the championship had a similar experience. Colorado had an 8 percent increase in the year following its championship, compared to an 11 percent decline for Minnesota, but the two schools had similar gains over three years.

The football championship brought neither a significant improvement in admissions numbers nor an increase relative to peer schools for another set of institutions. In the admission year following the 1979 championship, Alabama increased 1 percent and declined 4 percent over three years, with peer school Mississippi increasing 7 percent over three years. Applications to Clemson declined 12 percent in the year after the 1981 championship, while peer school Mississippi State increased 12 percent, and the two schools had similar numbers over three years. Although Oklahoma had a 7 percent increase in applications following its championship and a 21 percent increase over three years, its peer schools -- Kansas and Texas A&M -- matched the gains. Applications to Kansas increased 6 percent over one year and 14 percent over three years, and Texas A&M saw increases of 17 percent and 24 percent over the same periods.

Finally, with respect to the accepted applicants, we observed no discernible differences between the students applying before and after a national championship in either football or men's basketball. In addition, there are no noticeable differences in the yield from accepted applicants following the championship season in either sport. These findings are consistent over a three year time frame, as well.

2. Basketball Championships

Championship seasons in basketball occur in March or April: nine months or so before students begin to submit application in late Fall and early Winter for admission the next fall. Ten of 13 schools experienced some increase in applications in the admission year following the NCAA Tournament championship. In only two cases were there increases of over 10 percent in the admission year following a basketball championship: Michigan in the Fall, 1990 admission cycle following their Winter, 1989 championship, and Georgetown for Fall, 1985 after their championship season in 1984. Over three years, 10 of 13 schools showed an increase in the number of applications received. Of the 10 schools, nine showed an increase of nine percent or more. In Appendix B, as we did for football, we report the number of applicants for the men's basketball championship schools for both the year immediately after the championship season as well the average of the three years following the championship. We also report data for the matched school over the same periods of time.

a. Relative Improvement in Applications

Michigan experienced a 29 percent increase in applications in the admissions year following its 1989 championship, while peer schools Texas and UCLA had declines of 20 percent and eight percent, respectively. Over three years, however, the difference decreased, with Michigan showing a 6 percent gain and UCLA dropping 7 percent and Texas falling 15 percent. At Georgetown, admissions increased 13 percent in the year following the championship and 24 percent over three years. These increases are less impressive, however, when considered in relation to the matched schools for Georgetown: Tulane and Vanderbilt. Tulane had an increase of 17 percent for one year and 18 percent for three years during the same period, and Vanderbilt had a three year increase of 16 percent for three years.

Several other institutions experienced increases of over 10 percent increase for the average of the three years following the championship: Indiana after 1981 (15 percent);

North Carolina State after 1983 (10 percent); Villanova after 1985 (18 percent); Louisville after 1986 (12 percent); Indiana after 1987 (15 percent); and Duke after 1992 (14 percent). With one exception -- Duke in 1992 -- the matched schools experienced increases that were smaller -- but only slightly smaller -- over the three years following the championship. For instance, applications to Ohio State increased 12 percent and Illinois had 10 percent more applications when Indiana increased 15 percent over 1982, 1983, and 1984; Fordham increased 16 percent and Vanderbilt gained nine percent compared to the leap in applications to Villanova of 18 percent; the gain of 12 percent at Louisville is similar to the increase of eight percent at Cleveland State; and the increase of 15 percent at Indiana after 1987 compares with the 12 percent increase at Ohio State and the four percent increase at Illinois. At Duke, the 14 percent increase over three years following the 1992 championship was exceeded by a 26 percent rise in applications to Emory and matched by a 13 percent gain by Vanderbilt.

Other schools experienced little or no gain in applications over the three year period following a basketball championship, either in absolute numbers or relative to peer schools. Michigan State declined six percent over the three years following its 1979 championship, while Illinois increased 5 percent. Louisville dropped 25 percent over three years, while its peer schools -- Cincinnati and Memphis State -- had single digit declines. North Carolina fell 2 percent after its 1982 title, compared with a 5 percent increase at peer school Wisconsin. Applications to Kansas declined 5 percent in the three years after the 1988 title, similar to peer school Iowa, while peer school Nebraska increased 15 percent. Finally, applications to Duke increased 9 percent over three years after the 1991 championship, but Emory and Vanderbilt exceeded the Duke gain, increasing by 27 percent and 15 percent respectively. The same was true over the one year following the Duke championship, with Emory increasing 13 percent and Vanderbilt gaining 12 percent, compared with a 2 percent increase for Duke. Similarly, in each of the other cases, the one year reflected the three year numbers.

Often, changes in the number of applications received were less impressive in the year immediately following the championship. In the year after it 1982 championship, Indiana had a 5 percent increase in applications, compared with 15 percent over three years. Other schools had similar experiences with one year versus three year numbers: North Carolina State after 1983 (3 percent increase versus 10 percent increase); Georgetown after 1984 (3 percent increase versus 24 percent increase); Villanova after 1985 (1 percent decline versus 24 percent increase); Louisville after 1986 (7 percent increase versus 12 percent increase); Indiana after 1987 (8 percent increase versus 15 percent increase); and Duke after 1991 (2 percent increase versus 9 percent increase).

Finally, as with football, we observed no real changes in yields and enrollments and the quality of the applicants following basketball championships during both the initial year and over three years.

G. Interpretations and Limitations

Although many factors influence student college choice, our preliminary findings suggest that success in intercollegiate athletics, in the form of a national championship in one of the two marquee sports, translates into a sometimes dramatic increase in the number of admissions applications received both in absolute terms and relative to peer institutions. Even though changes in admissions numbers at any institution can be attributed to countless factors, increases in applications coincided with athletic success in several types of cases. We are well aware that the data include counter instances to the trends we begin to suggest as a result of our initial exploration of these data. In addition, we recognize the limits in the data, as reported by the schools. We also appreciate the compromises involved with the "non-statistical" method we used in analyzing our data. Our thought was that in an exploratory study, we should be open to trends that might not be apparent if run though a statistical model, but might be worthy of consideration and eventual testing.

We are eager to build upon these findings, particularly adding a qualitative component to the study through interviewing admissions officers present at the institutions

during periods when dramatic increases or declines occurred in admissions applications. Factors other than a championship could have influence increases in admission numbers during the period following the championship season. Our interviews will clarify whether there are other circumstances underlying any change in statistics. We also recognize that we may be able to strengthen our findings adding more peer schools to the study, especially institutions in the same geographic region so we can better factor out increases attributable to large population increases specific to given states and regions.

1. Positive Attention

Clearly, not every championship season leads to a dramatic increase -- or any real increase -- in the number of applications submitted by aspiring undergraduates. What might connect the schools that experience a big jump in the year or years following the public attention connected with a national championship? There may be some connection between that larger increases and compelling stories that make for particularly memorable seasons: championship years that people "buy into" because they have the movie script quality of being unexpected, involving interesting or sympathetic personalities, or pitting good against evil (or evil against good). The two most dramatic leaps in football -- Miami after 1987 and Georgia Tech after 1990 -- followed just such types of good stories. Miami formed its identity in the mid-1980s, playing a brash new "outlaw" football style of football that portrayed well in the media. Georgia Tech, a national power in the 1940s and 1950s, returned to glory after several disappointing seasons in a year when the media focused heavily on the split national title, the first in several years, with Colorado. Other schools that experienced a rise in admission applications in either the year following a football championship or in the three years after the title, also represented compelling stories: Georgia in 1980 was led by record setting Heisman Trophy winner Hershal Walker, who later made news by leaving school early, a rarity at the time; Penn State in 1982 was a "Cinderella" story, having lost out on the national title multiple times in the 1970s under popular coach Joe Paterno because of the perception that they did not play a sufficiently

tough schedule; Notre Dame in 1988 reclaimed its tradition and reaffirmed its standing as the team with the largest following after several disappointing seasons under coach Gerry Faust; and Miami in 1989 continued to make news for its controversial, but successful, style of play.

The notion holds among basketball champions. Michigan in 1989 and Georgetown in 1984 -- the two schools with the most dramatic increases in applications -- both represented good stories. Michigan won with an interim coach, Steve Fisher, named the week of the first round tournament games, and Georgetown won two years after losing the championship to North Carolina when guard Freddie Brown threw a last-minute pass directly to a UNC player standing behind him, cinching the game for Carolina. Other championship seasons followed by increases in applications involved good stories: Indiana in 1981 won its second championship under controversial coach Bob Knight, led by popular guard Isiah Thomas; North Carolina State in 1983 was the ultimate underdog, beating a very talented Houston team after coming into the tournament with double-digit losses in the regular season and unranked in the top 20 at the end of the season under vivacious coach Jim Valvano; and Villanova in 1986, another heavy underdog, beat a heavily favored Georgetown team by playing a "perfect" second half of basketball for popular coach Rollie Massimino.

Not all national championships in football or basketball, however, translated into increased popularity for the school among aspiring undergraduates, perhaps because of the opposite of good stories: negative or indifferent coverage. Brigham Young won a controversial national football title in 1984, going undefeated in what was portrayed as a weak conference, the WAC. Washington in 1991 followed its national football title with stories of scandal in the football program that led to the resignation of its coach, Don James. In addition, Alabama in 1979, Clemson in 1981, and Oklahoma in 1985 won in football when it was expected of them. In basketball, Michigan State after 1979, Louisville after 1980, North Carolina after 1982, and Kansas after 1988, did not experience great

gains in applications. North Carolina's win was less of a story than the errant Georgetown pass that set it up, and Louisville was expected to win the entire season. With Michigan State, even thought they were led by Magic Johnson, the most popular player of his era, they may not have been a compelling story. The Spartans beat underdog Indiana State, led by Larry Bird, in the finals and a "Cinderella" Penn team in the semifinals, after rolling through the tournament. Plus, Johnson left school following the tournament for stardom in the NBA. Kansas, although they won as a number 6 seed, went on probation soon after the championship and saw the departure of coach Larry Brown.

Another aspect of the compelling story idea is that an institution may not have to win a championship to receive the same attention and corresponding boost in popularity. Duke University emerged as a basketball powerhouse, for instance, in the mid 1980s, several years before the Blue Devils won their first national championship in 1991. During the period, the school received ample positive attention for its academic rigor and intelligent and disciplined play on the court, and applications to Duke increased dramatically: increasing from the previous year by 19 percent in 1984; 11 percent in 1985; 6 percent in 1986; 19 percent in 1987 (the admissions year following Duke's first Final Four appearance since 1978) , before beginning a four year decline in 1989. Georgetown experienced the same increase during a period of great attention and sustained success after having emerged from the basketball wilderness, in the four years prior to its first championship. Today, Northwestern is experiencing the same situation, with early reports that its applications are up 20 percent following their remarkable Rose Bowl appearance after being the worst team in the Big Ten for half a century. It must be mentioned, however, that these upward trends -- and those at other schools -- might be attributable to other events or initiatives ongoing at the university at the time, a question that we clarify during our interviews.

2. Selectivity

The relative selectivity or non-selectivity of an institution may have some bearing on increases in applications following championship seasons. Of the 24 colleges and universities that won Division I championships in football or basketball, eight typically accepted less than 50 percent of the prospective students who applied during the period when the won a championship: Duke, Georgetown, Georgia Tech, Michigan, North Carolina, Notre Dame, Penn State, and Villanova. Two of these schools -- Duke and Georgetown -- were highly competitive, having offered admission to approximately one-quarter to one-third of applicants. With the exception of North Carolina, each of these institutions experienced some meaningful increase in applications in absolute numbers, relative to peer schools, or in both categories. However, a few institutions with less competitive admissions -- Alabama, Brigham Young, and North Carolina State -- also showed increases and represent counter instances.

In addition, the fact that admit rates, yields, standardized test scores, and high school grade point average at both selective and less selective schools remained stable -- despite increases in applications -- suggests that the same types of students are applying, just more of them. In other words, increased popularity of institutions among applicants does not appear to translate into academically better or worse of students applying, only additional numbers of students of the same academic profile. Still, with more applicants, it follows that admissions officers can do more to diversify a class, even though the students within it apply with the same types of GPAs and test scores as earlier applicants. We are interested in exploring this issue further with admissions officers, who we hope will have more detailed data on the issue of student academic quality. We are also interested in examining whether the geographical diversity that often goes along with selectivity expanded concurrently with increases in applications; another matter that is not apparent from our data that we will discuss in interviews with admissions officers.

Finally, regardless of changes in number of applications, we did not observe yield to change considerably at any school. Dramatic increases in applications following a

significant campus event like a national championship in a marquee sport, therefore, appears to have what impact it has more on the search phase, and less on choice phase, of student college choice.

3. Sustained Increases and Subsequent Increases

Our findings suggest that when increases in the number of applications received following a championship occur, they do not represent a one or two year "blip." In addition, the three year trend in applications was positive in all but five cases and in 10 of 30 cases there was a percent increase that matched or exceeded the percent increase for the year immediately following the championship. The cases that experienced a decline generally had less competitive admissions. One explanation for the impact of championship seasons being felt less strongly at schools with less competitive admissions could be that these institutions receive applications from and admit more older and part-time students. These students are more likely to be place-bound and less concerned about factors like college sports in choosing their school.

We also noticed one interesting trend in that data for which we cannot suggest an explanation. At both Villanova and Oklahoma, the 1985 champions in basketball and football respectively, the schools experienced little difference in applications in the admission year following the championship (Villanova declined by 1 percent and Oklahoma increased by 7 percent), but a significant increase in the year after that (Villanova increased 8 percent from the championship year and Oklahoma increased 23 percent from the championship year). Our hope is that our interviews with admissions officers at both schools will shed some light on this question.

4. Geography

We selected our matched schools without regard to geography, instead focusing on including institutions of similar characteristics: size, type of governance, academic reputation, and quality of students. We also took care to select peer schools that did not

experience dramatic athletic success during the years we used in the comparisons with the championship schools. A potential flaw with our scheme is that different regions of the country have grown in population to greater and lesser extents -- with likely corresponding increases and decreases in the number of high school graduates -- a factor that might account for differences in application numbers between matched schools and peer schools. In the next phase of our study, we intend to compare the championship schools with regional peer schools, as identified by admissions officers. We anticipate adding five additional peer schools for each championship school, strengthening our findings of gains or losses in applications by schools winning championships relative to peer schools.

H. Future Research

Our next step in our exploratory study of the potential influence of intercollegiate athletics success on student college choice is to gather qualitative data from admissions officers, as well as to attempt to find more detailed numbers in order to address with additional certainty whether and when changes in the number and type of applicants occur. The qualitative component will help to better bring these numbers to life, allowing admissions officers to offer their thoughts about the reasons underlying increases and decreases in admission numbers in the years following championships. In addition, admissions officers can provide us with additional peer schools, including schools that are in the same geographic region, allowing us to refine our comparisons between championship institutions and universities with the same general attributes, the construct we use to attempt to isolate athletic success as a factor. Our goal in these comparisons is to factor out as many attributes as possible in the search process, leaving athletic success as a difference, and including more peer schools in the study will further this end. Finally, we intend to compare changes in applications with changes at various schools in overall high school graduation rates and rates for college attendance, in order to determine whether upward trends are much the result of all schools gaining in applications. We are aware that

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these data aggregate statistics for several types of institutions and that our concern here is only with the small set of institutions that participate in Division I sports.

We are also interested in several related questions. The first is whether schools that receive large amounts of positive attention but do not win championships (like Northwestern in football in 1995) experience analogous increases or decreases to championship schools. The second is whether our general finding works in reverse and there are decreases in applications when considerable negative publicity attaches to a university due to an athletic department. The case of Southern Methodist in the late 1980s receiving the NCAA "death penalty" that closed down its football program comes to mind. The third is whether similar situations apply to non-revenue or Divisions II and III championships, particularly at institutions or in regions that take intercollegiate sports especially seriously. The fourth is whether there is a change in applications or admissions numbers for certain non-athletic activities, such as presidential debates held on campus, etc. The fifth is whether success in women's sports, particularly the marquee sport of women's basketball, translates into increases in applications, particularly applications by women.

I. Conclusion

Our preliminary findings suggest that the significant success in intercollegiate athletics and the positive attention it produces has an influence in college student choice, particularly at the search stage when students submit college application. Increases appear to be centered at more selective institutions and appear to occur when the championship season represents a compelling story. Also, our data suggests that these increases are more than a one-year "blip" following the championship. Similarly, although our data does not offer direct evidence, championship seasons may influence predisposition in making certain students -- those who follow college sports -- aware of higher education from an early age. Our data does not suggest differences in yield and enrollment, suggesting no real effect on the choice stage. Our next step is to strengthen these early findings through bringing qualitative data, additional matched schools, and aggregate national data on the number of

high school graduates into the study. Championship seasons appear to have some influence on the number of applications received in the year and years following the championship, but the real magnitude of the effect remains an open question worthy of continued study.

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Appendix A

Number of Applications and Percent Change in Applications: Football

	Championship Year and Next Admission Year			3 Year Average		
Championship School and Matched Schools	Champ. Year	Next Adm. Year	Percent Change	Champ. Yr. and 2 Prev. Yrs	Next Adm. Yr. and 2 Subseq. Yrs	Percent Change
Alabama, 1979	*5052*	*5070*	*1*	*4779*	*4567*	*- 4*
- Louisiana State	incompl.	incompl.	incompl.	incompl.	incompl.	incompl.
- Mississippi	2908	3000	1	2754	2981	7
Georgia, 1980	*6716*	*7494*	*11*	*6894*	*7433*	*7*
- Florida	9073	11557	21	8929	11212	21
- South Carolina	6700	6220	- 8	6462	6121	- 5
Clemson, 1981	*7918*	*7054*	*-12*	*5866*	*6266*	*7*
- Auburn	6146	5827	- 5	6149	6112	- 1
- Mississippi State	2684	3037	12	2727	2873	5
Penn State, 1982	*10003*	*10051*	*1*	*11000*	*14439*	*24*
- Illinois	13952	14359	3	13449	14636	8
- Syracuse	12865	12165	5	13288	13039	- 2
Miami, 1983	*5259*	*6043*	*13*	*5549*	*6008*	*8*
- Tulane	incompl.	incompl.	incompl.	incompl.	incompl.	incompl.
- George Washington	5026	5810	14	5292	6311	16
Brigham Young, 1984	*5824*	*6618*	*12*	*5948*	*6712*	*12*
- Utah	6000	7090	15	5198	7090	26
- Baylor	3636	4070	11	3549	4356	19
Oklahoma, 1985	*4633*	*4987*	*7*	*4469*	*5518*	*21*
- Kansas	8452	9037	6	8292	9718	14
- Texas A&M	9985	12000	17	10274	13677	25
Penn State, 1986	*24472*	*26357*	*7*	*23891*	*26120*	*9*
- Illinois	14806	14482	2	14785	14970	1
- Syracuse	13000	14000	8	13318	15350	13
Miami, 1987	*5425*	*8267*	*34*	*5802*	*8545*	*33*
- Tulane	7262	6710	- 8	6436	6798	5
- George Washington	6389	6765	5	6504	6421	- 1
Notre Dame, 1988	*9634*	*9931*	*3*	*8111*	*9116*	*11*
- Boston College	15523	13526	- 13	15367	12965	- 16
- Fordham	4751	4773	0	4443	4523	2

Miami, 1989	*9149*	*8370*	*- 9*	*7613*	*7902*	*4*
- Tulane	6710	6800	1	6924	7006	1
- George Washington	6395	6104	- 5	6516	6064	- 7
Colorado, 1990	*13229*	*14344*	*8*	*13109*	*14056*	*7*
- Texas	incompl.	incompl.	incompl.	incompl.	incompl.	incompl.
- Minnesota	11559	10306	- 11	12502	13819	10
Georgia Tech, 1990	*5843*	*7321*	*21*	*6008*	*7634*	*23*
- Maryland	14942	13910	7	16179	14101	13
- Purdue	20821	21909	5	21491	21836	1
Miami, 1991	*7566*	*7771*	*3*	*8362*	*7979*	*- 5*
- Tulane	7491	6643	- 11	7058	6823	- 3
- George Washington	incompl.	incompl.	incompl.	incompl.	incompl.	incompl.
Washington, 1991	*11068*	*12516*	*12*	*10399*	*12447*	*18*
- Oregon	6095	7159	15	6269	7895	21
- Wisconsin	13895	15286	9	14544	15342	5
Alabama, 1992	*6245*	*7677*	*19*	*7195*	*7576*	*5*
- Louisiana State	6707	6000	- 10	6558	6178	- 6
- Mississippi	3516	3844	10	3694	3915	6

Appendix B

Number of Applications and Percent Change in Applications: Basketball

	Championship Year and Next Admission Year			3 Year Average		
Championship School and Matched Schools	Champ. Year	Next Adm. Year	Percent Change	Champ. Yr. and 2 Prev. Yrs	Next Adm. Yr. and 2 Subseq. Yrs	Percent Change
Michigan State, 1979	*16650*	*16168*	- 3	*15923*	*14969*	- 6
- Illinois	12617	12916	2	12778	13449	5
- Minnesota	incompl.	incompl.	incompl.	incompl.	incompl.	incompl.
Louisville, 1980	*4525*	*4293*	- 5	*4901*	*3690*	- 25
- Cincinnati	9081	8204	10	9274	8625	- 7
- Memphis State	3763	3368	- 10	3728	3505	- 6
Indiana, 1981	*11856*	*12509*	*5*	*10646*	*12545*	*15*
- Ohio State	13486	15446	13	13775	15596	12
- Illinois	13480	13952	3	13004	14377	10
North Carolina, 1982	*11794*	*12287*	*4*	*11490*	*11296*	- 2
- Texas	14108	11912	- 15	13445	11792	- 14
- Wisconsin	10809	11338	5	11341	11970	5
N.C. State, 1983	*8663*	*8962*	*3*	*8247*	*9172*	*10*
- Auburn	5948	6560	9	incompl.	incompl.	incompl.
- Louisiana State						
Georgetown, 1984	*9725*	*11126*	*13*	*8977*	*11810*	*24*
- Tulane	5373	6468	17	5256	6436	18
- Vanderbilt	5595	5846	4	5381	6423	16
Villanova, 1985	*8489*	*8442*	*- 1*	*7589*	*9120*	*18*
- Fordham	4205	4009	5	3756	4443	16
- Tulane	6468	5578	- 15	5921	6516	9
Louisville, 1986	*5024*	*5373*	*7*	*5059*	*5707*	*12*
- Cincinnati	9272	6624	- 39	8752	7013	- 20
- Cleveland State	2566	2740	6	2532	2750	8
Indiana, 1987	*15877*	*17186*	*8*	*14560*	*17084*	*15*
- Ohio State	16815	19071	12	16929	19075	12
- Illinois	14482	15346	7	14673	15214	4
Kansas, 1988	*9669*	*10000*	1	*9702*	*9246*	*- 5*
- Iowa	9363	9084	- 3	9217	8504	- 8
- Nebraska	7151	8416	15	6525	7724	15

Michigan, 1989	*16833*	*23115*	*29*	*18438*	*19651*	*6*
- Texas	17979	15000	- 20	17078	14526	- 15
- UCLA	24441	22610	- 8	24358	22635	- 7
Nevada-Las Vegas, 1990	incompl.	incompl.	incompl.	incompl.	incompl.	incompl.
Duke, 1991	*12199*	*12420*	*2*	*12349*	*13511*	*9*
- Emory	6750	7700	13	6300	8620	27
- Vanderbilt	6627	7553	12	6739	7914	15
Duke, 1992	*12420*	*13789*		*12076*	*14057*	*14*
- Emory	7700	8506	10	6783	9080	26
- Vanderbilt	7553	7791	3	7076	8095	13